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Mental Illness and the Left

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It has been claimed that left-wingers or liberals (US sense) tend to more often suffer from mental illness than right-wingers or conservatives. This potential link was investigated using the General Social Survey cumulative cross-sectional dataset (1972-2018). A search of the available variables resulted in 5 items measuring one's own mental illness (e.g., "Do you have any emotional or mental disability?"). All of these items were weakly associated with left-wing political ideology as measured by self-report, with especially high rates seen for the "extremely liberal" group. These results mostly held up in regressions that adjusted for age, sex, and race. For the variable with the most data (n = 11,338), the difference in the mental illness measure between "extremely liberal" and "extremely conservative" was 0.39 *d*. Temporal analysis showed that the relationship between mental illness, happiness, and political ideology has existed in the GSS data since the 1970s and still existed in the 2010s. Within-study meta-analysis of all the results found that extreme liberals had a 150% increased rate of mental illness compared to moderates. The finding of increased mental illness among left-wingers is congruent with numerous findings based on related constructs, such as positive relationships between conservatism, religiousness and health in general.

Key Words: Mental illness, Mental health, Happiness, Life satisfaction, Political ideology, Left-wing, Liberalism, Right-wing, Conservatism

It has been reported that left-wingers or liberals (US sense) tend to more often suffer from mental illness than right-wingers or conservatives (Bullenkamp & Voges, 2004; Duckworth et al., 1994; Guhname, 2007; Howard & Anthony,

1977; Kelly, 2014; Unorthodox Theory, 2020). This suggestion is consistent with other research showing that religiosity predicts both mental and physical health (AbdAleati et al., 2016; Cotton et al., 2006; Dutton et al., 2018; Moreira-Almeida et al., 2006; Seeman et al., 2003; VanderWeele, 2017), given the known strong relationship between political conservatism and religiousness (Koenig & Bouchard Jr., 2006; Ludeke et al., 2013). Furthermore, political conservatism has been found to be associated with longevity (Kannan et al., 2019).

In a recent series of tweets, Lemoine (2020) analyzed data from the *Slate Star Codex* (SSC) 2020 reader survey[1] (n = 8,043; Alexander, 2020), and showed that self-rated political ideological position (1-10 scale) and self-rated far-left labels were related to mental health. Since his work was not published in academic format, we reproduce his main result in Figure 1.

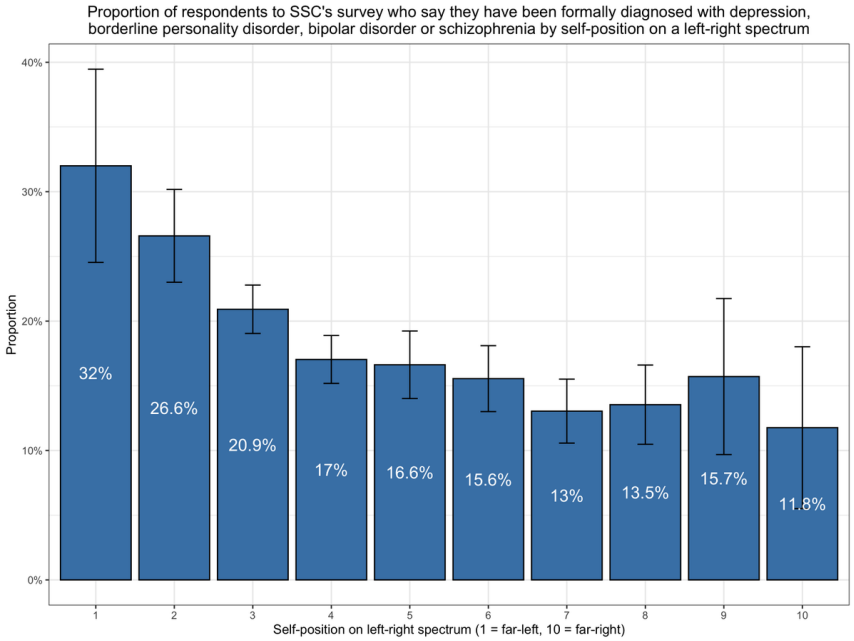

Figure 1. *Self-reported mental health and self-reported political label. Reproduced from Lemoine (2020).*

[1] The *Slate Star Codex* is a popular blog by Scott Alexander, a Silicon Valley-based philosopher and psychiatrist. The reader survey is a public survey composed by Alexander and colleagues and was freely available to take via a link from his blog. https://slatestarcodex.com/

However, the SSC survey is far from representative, being mainly limited to readers of a particular blog that attracts mainly European-descent, highly intelligent readers (Karlin, 2018). Thus, there was a need to replicate the analysis in more representative samples. Hence, the aim of the article was to examine the links between mental health and political ideology in the General Social Survey (GSS, https://gss.norc.org/), a public access large-scale survey with relevant data.

Data

We used data from the cumulative cross-sectional file 1972-2018 (release 1) available for public use at https://gssdataexplorer.norc.org/pages/show?page=gss%2Fgss_data. This has a total sample size of 64,814, but not all items (questions) were asked in every wave, or given to all respondents in each wave. We searched the database for items relating to mental illness.[2] Five items were found with at least a sample size of 1,000, shown in Table 1. Four of these were binary/dichotomous, and one was numeric. Political ideology was measured by a 1-7 scale going from extremely liberal to extremely conservative, which was available for all subjects. Figure 2 shows the distribution of political ideology by survey year.

Table 1. *Survey questions concerning mental health.*

Question	Response	n	Years
Do you have any emotional or mental disability?	Yes/no	2,777	2006
Now thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?	Numeric [0-30]	11,338	2002, 2004, 2006, 2010, 2012, 2014, 2016, 2018
First, thinking about health related matters, did any of the following happen to you since [12 months ago]? Underwent counseling for mental or emotional problems.	Yes/no	2,345	1991, 2004
Have you ever felt you had a mental health problem?	Yes/no	1,053	1996
Have you personally ever received treatment for a mental health problem?	Yes/no	1,413	2006

[2] We used search terms such as “mental”, “illness”, “disorder”, and “depression”.

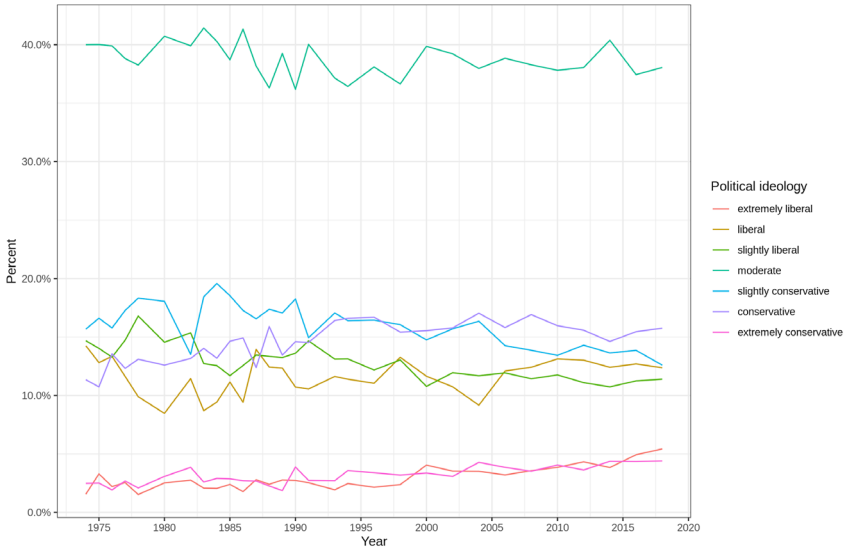

Figure 2. *Distribution of political ideology by survey year.*

Moderates are the largest group at roughly 40% of the population. People with extreme views represent approximately 10% of the population in 2018 but only about 5% in 1975. Thus, there is a long running tendency towards more ideological extremism, at least insofar as this self-report measure is concerned. The increase in recent years is consistent with the pattern from other sources about the Great Awokening (Goldberg, 2019; Kaufman, 2019; Winegard & Winegard, 2018; Yglesias, 2019).

Results

First, we plotted the average of each outcome by political ideology and sex. We included a split by sex because sex relates to politics[3], and sex relates to

[3] Sex/gender relates to politics in that women vote more for left-wing parties. This, however, is not a constant finding through history. For research, see e.g. (Abendschön & Steinmetz, 2014; Edlund & Pande, 2002; Inglehart & Norris, 2000). However, even before women voted for left-wing parties (roughly, prior to the 1970s), their influence on politics was to increase state spending on welfare, i.e. a left-wing/big government influence (Abrams & Settle, 1999; Lott & Kenny, 2015). Evidence for this comes from countries and subnational governments that implemented women's suffrage (vote) at different times.

mental illness (women higher), and ignoring sex would thus lead to some confounding. Figures 3a-e show the results.

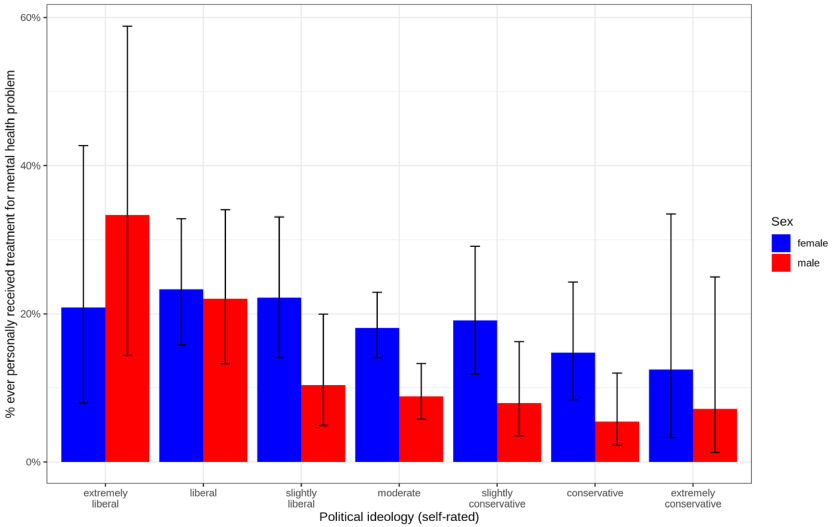

Figure 3a. *Mental health outcomes by political ideology and sex: treatment for mental health. Error bars are 95% analytic confidence intervals.*

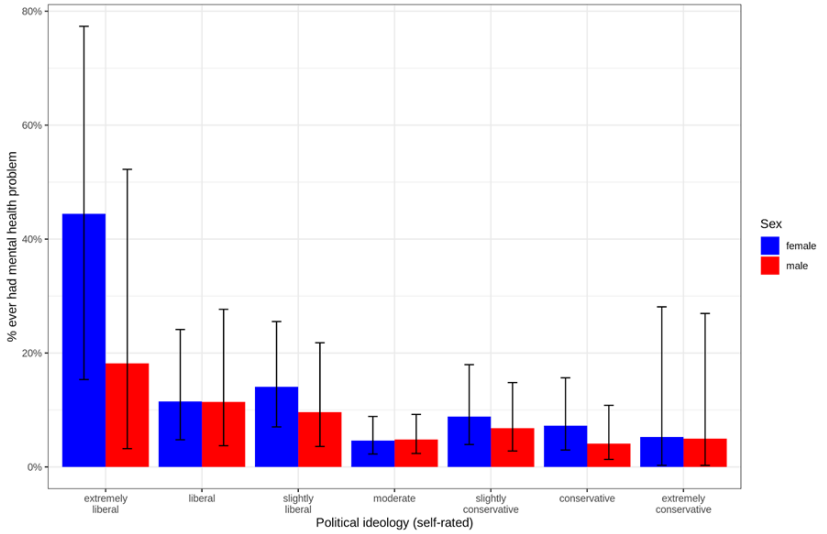

Figure 3b. *Mental health outcomes by political ideology and sex: ever had mental health problem.*

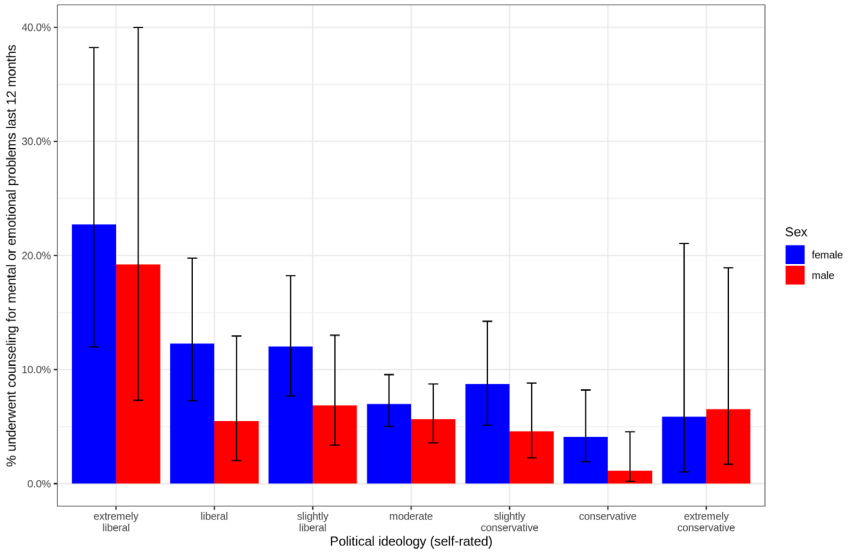

Figure 3c. *Mental health outcomes by political ideology and sex: counseling last year.*

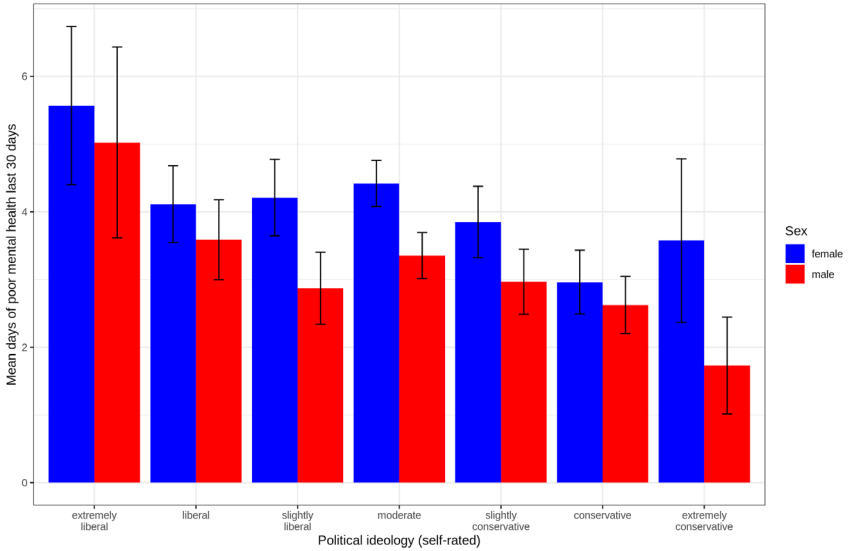

Figure 3d. *Mental health outcomes by political ideology and sex: days in poor health.*

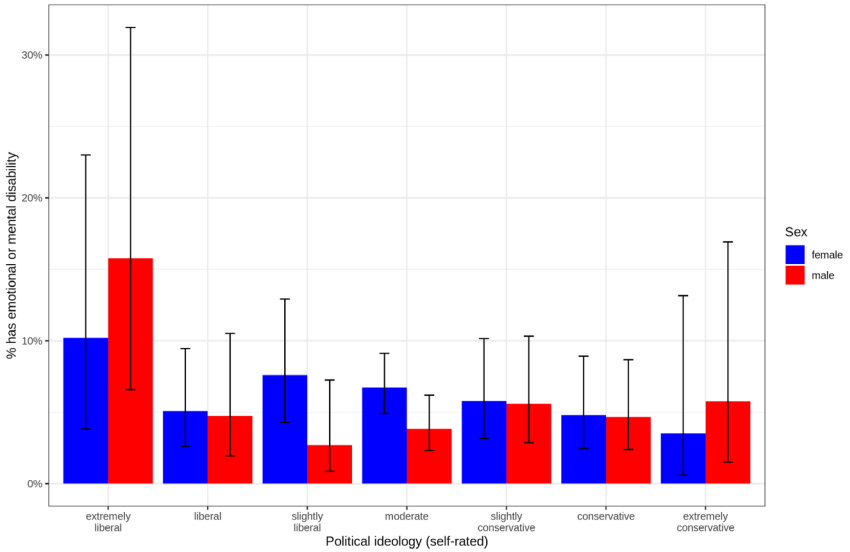

Figure 3e. *Mental health outcomes by political ideology and sex: emotional/mental disability.*

So we see that for mental illness outcomes, left-wing political ideology, in particular "extremely liberal", predicts worse mental health. The results also hold across sexes, though the sample sizes are not large for the extreme groups, and the predictor did not always have $p<.05$ in a regression model. Are the results large enough to care about? One approach is calculating Cohen's *d* values for the group gaps. This can only properly be done when the outcome data is continuous. Table 2 shows the results for the "days of poor mental health" variable with which we have the most data and which is a continuous outcome.

For the two most extreme groups, the gap is of moderate size, at least as measured by this single item. Another way to quantify it is to convert political ideology into numeric form (1-7) and correlate it with the variable (Pearson correlation). This produces a correlation of only .07 that is nevertheless highly significant statistically ($p = 3e^{-10}$). Hence, overall, the relationship between the two is quite weak and reaches a notable size only for extreme groups.

To examine whether age was a confound, we fit a regression model for each outcome, logistic models for the dichotomous and OLS for the continuous (days of poor health). Each model included political ideology, age (as a natural spline), and sex as predictors, without any interactions as the sample size did not provide sufficient statistical power. For each model, we projected the predicted levels of

mental illness from the models using the **ggeffects** package's *ggpredict()* function (Lüdecke, 2018), shown in Figures 4a-e.

Table 2. *Cohen's d gaps for "days of poor mental health last 30 days" by political ideology. Positive values indicate more days of poor health compared to the less liberal or more conservative group. For example, moderates had 0.28 standard deviations fewer days of poor mental health than extremely liberals, and 0.03 standard deviations more than those considering themselves slightly liberal.*

	Extr. lib.	Lib.	Slight. lib.	Mod.	Slight. con.	Con.	Extr. Con.
Extr. lib.		0.21	0.25	0.20	0.28	0.36	0.39
Lib.	0.21		0.04	-0.01	0.07	0.15	0.18
Slight. lib.	0.25	0.04		-0.05	0.03	0.12	0.14
Mod.	0.20	-0.01	-0.05		0.08	0.16	0.19
Slight. con.	0.28	0.07	0.03	0.08		0.09	0.03
Con.	0.36	0.15	0.12	0.16	0.09		0.03
Extr. con.	0.39	0.18	0.14	0.19	0.11	0.03	

Extr. = Extremely; Lib = Liberal; Slight. = Slightly; Mod. = Moderate; Con. = Conservative.

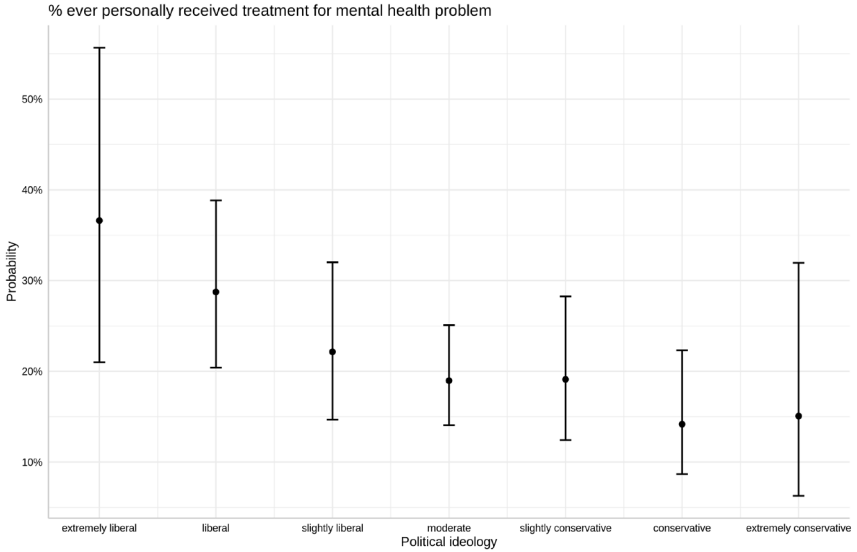

Figure 4a. *Model projections of mental health by political ideology, controlling for age and sex (covariates are held at average values): treatment for mental health. Error bars are 95% prediction intervals.*

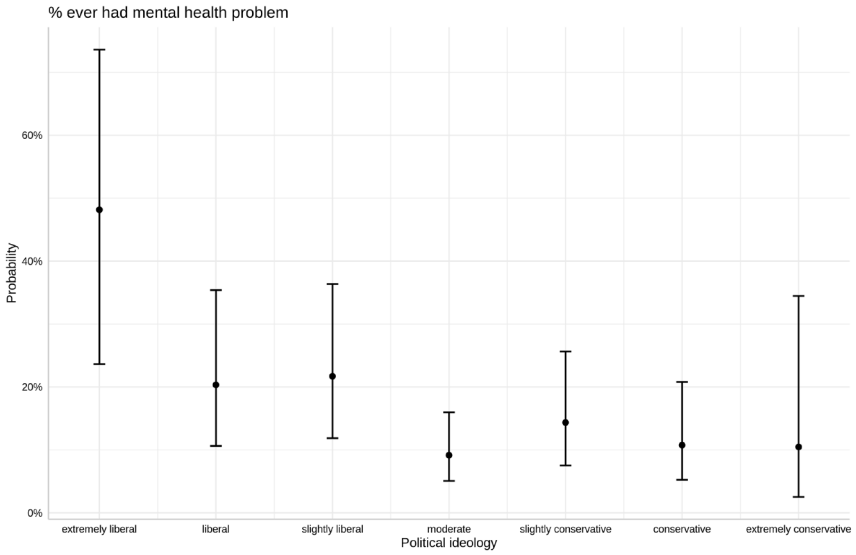

Figure 4b. *Model projections of mental health by political ideology, controlling for age and sex (covariates are held at average values): ever had mental health problem.*

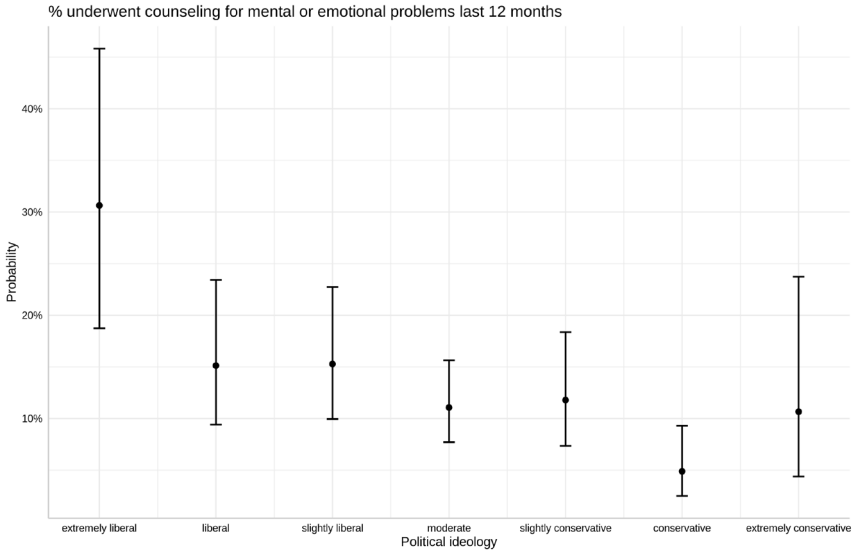

Figure 4c. *Model projections of mental health by political ideology, controlling for age and sex (covariates are held at average values): counseling last year.*

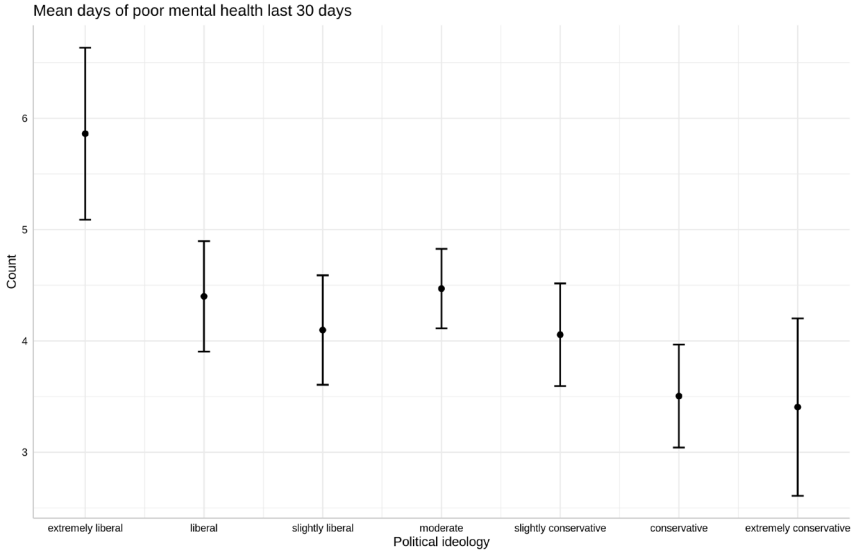

Figure 4d. *Model projections of mental health by political ideology, controlling for age and sex (covariates are held at average values): days in poor health.*

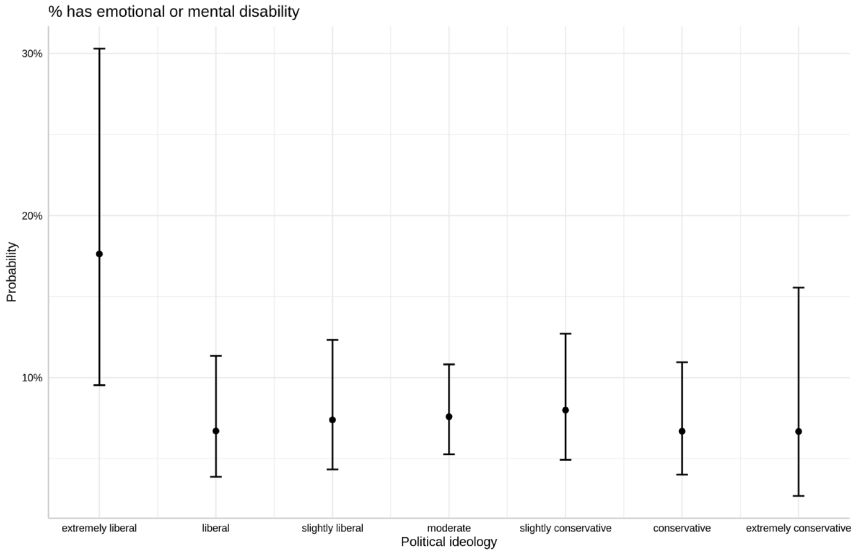

Figure 4e. *Model projections of mental health by political ideology, controlling for age and sex (covariates are held at average values): emotional/mental disability.*

As before, the results show that there is some relationship between mental health and political ideology such that left-wingers have worse outcomes. The confidence intervals are fairly wide, however. For people reporting having an emotional mental disorder or not, there was seemingly no pattern except that "extremely liberal" reported this higher than everybody else. As a robustness test, we ran models on whites only to avoid any potential confound with race and mental illness (Coleman et al., 2016; Maura & Weisman de Mamani, 2017). However, the results were very similar and are not shown here. Full statistical output and code can be found in the supplementary materials (https://osf.io/fhpxm/).

Reverse indicators: happiness and political ideology

Another option is to use reverse items that instead of measuring mental illness measure the opposite, happiness or high life satisfaction. The GSS has two items asking about happiness based on the questions: 1) "Taken all together, how would you say things are these days — would you say that you are very happy, pretty happy, or not too happy?", and 2) "If you were to consider your life in general, how happy or unhappy would you say you are, on the whole? [from completely unhappy to completely happy, 7 levels]". The sample sizes for these were 60,054 and 2,444, respectively. Figures 5a and b show the mean happiness level by sex and political ideology.

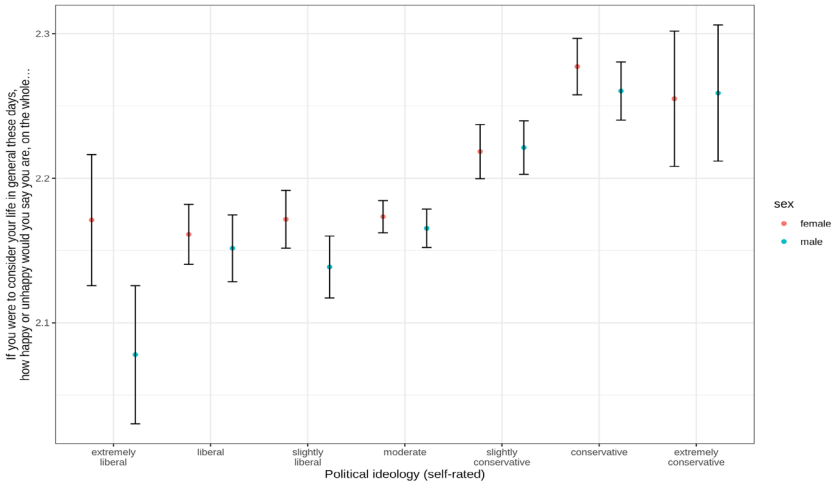

Figure 5a. *Mean happiness level by sex and political ideology: would you say that you are very happy, pretty happy, or not too happy? N = 60,054. Error bars are 95% analytic confidence intervals.*

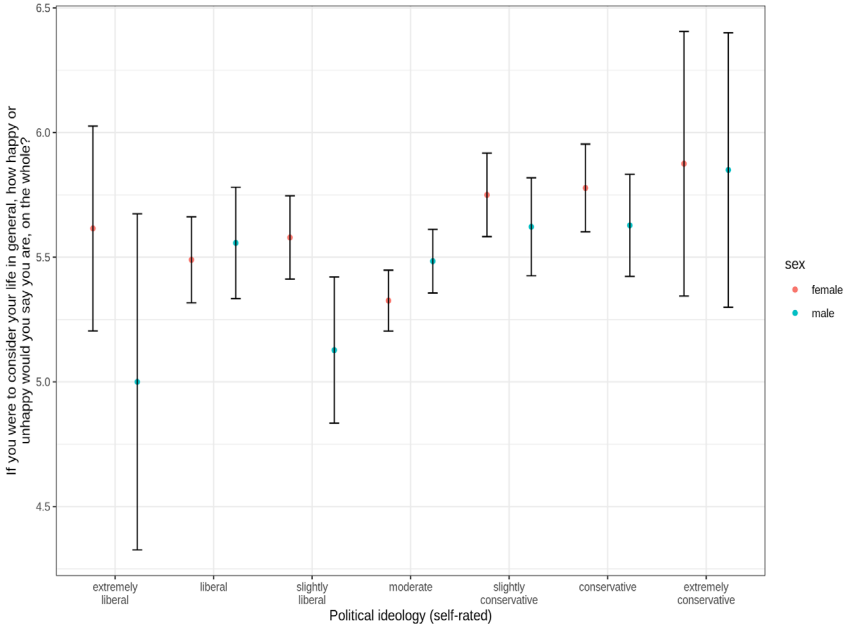

Figure 5b. *Mean happiness level by sex and political ideology: how happy or unhappy would you say you are, on the whole? N = 2,044.*

We see the same pattern in reverse, in that the more conservative groups have higher happiness levels on both questions. In terms of Cohen's *d*, the effect sizes between the extreme groups are 0.20 and 0.56, respectively; in terms of Pearson correlations, they are .06 and .11, respectively. It's unclear why the second should produce substantially larger gaps when the questions are quite similar, but it may just be sampling error.

Temporal pattern

Two of the items used have been asked for many years (bad days per month and happiness question 1), allowing for analysis of any temporal pattern. Because large samples are required to detect weak patterns, the waves of data were grouped at the decadal level. Figure 6 shows the results.

The relationships persisted across all waves of data, beginning in the 1970s and into the end of the 2010s. Cohen's *d* was also calculated for the same

comparisons shown in the figure. Although there were some differences across decades, they were all numerically consistent in direction and probably not significantly different in most cases if formally tested. The full numerical output can be found in the statistical output.

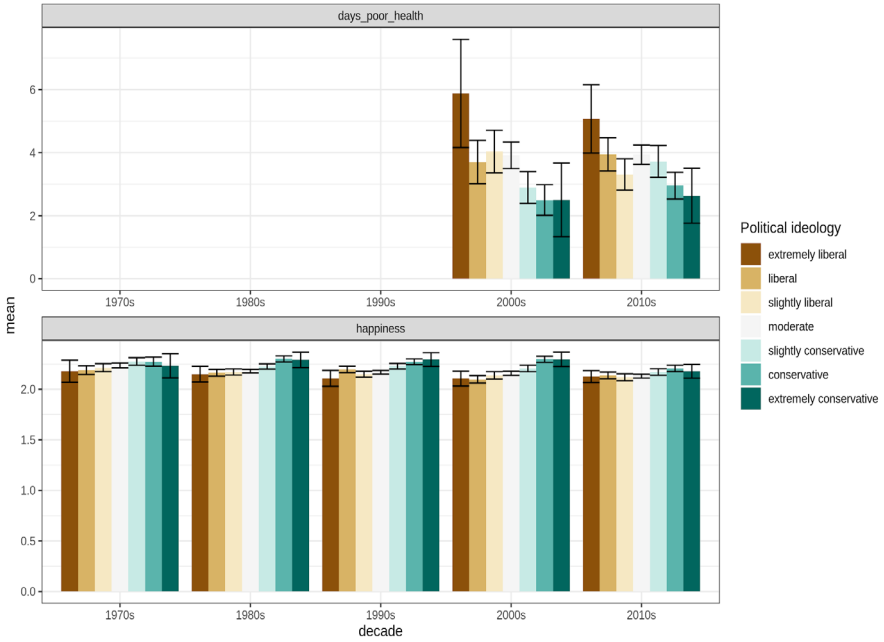

Figure 6. *Temporal pattern in relationship between political ideology, mental illness and happiness. Error bars are 95% analytic confidence intervals.*

Party affiliation as alternative political measure

At the request of a reviewer, we replicated the main result in Figure 3 using the party affiliation question. This question is similar to the political ideology one, but instead asks people which party they are affiliated with, ranging from strong Democrat to strong Republican. There is also an option for third parties, but we removed this due to incompatibility with the other results, as well as limited sample size which makes the results too imprecise to interpret. Figure 7 shows the results.

With the four binary measures, the pattern is roughly the same as the prior analyses. However, for the continuous outcome (days poor health), we see a non-monotonic pattern such that Independents actually score higher. Even in this subanalysis, however, strong Republicans are quite far below their counterpart.

The main issue here is that the outcome measures are not on the same scale (dichotomous vs. quasi-continuous), and even those on the same scale have different base rates. Thus, to facilitate comparison, the data were converted into relative risk (RR) relative to the moderates.[4]

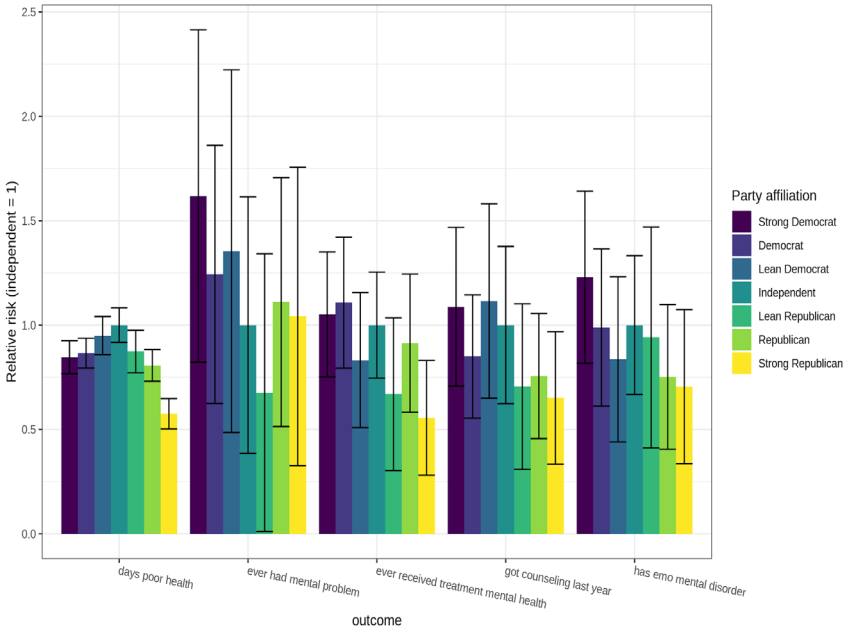

Figure 7. *Party affiliation and mental illness measures. Error bars are 95% analytic confidence intervals.*

Meta-analysis

The individual estimates of mental illness measures are somewhat unreliable owing to the small number of persons in the extreme groups, and the low base rates. To overcome this limitation, we can meta-analyze the findings from Figure 3a-e. Bootstrapped standard errors were computed by resampling individuals and then computing all downstream statistics 1000 times. This was done because it was unclear how to calculate analytic error bars for these data, which were converted into RR and originating from different scales, as well as having some

[4] One could also have computed them relative to the overall mean. The latter would remove any changes related to the changing of the distribution of political ideology, as was shown to exist in Figure 2.

degree of non-independence between values due to multiple questions asked in the same wave in some cases. Figure 8 shows the results.

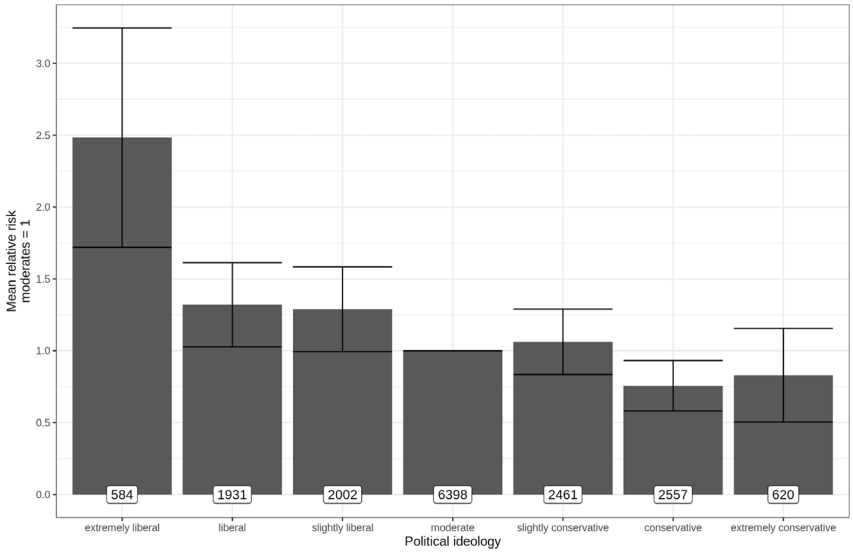

Figure 8. *Meta-analysis of mental illness indicators on relative risk scale compared to moderates. Error bars are 95% bootstrapped confidence intervals. The error bar for moderates has 0 height because it is the reference group. Total sample sizes shown at the bar bottoms.*

The results confirm the general pattern from before, namely that there is a strongly elevated risk for mental illness among the extreme liberals (+150%), a small increase among the liberals and slightly liberals (+29 to 32%), and somewhat lower rates among conservatives and extreme conservatives (-17 to 24%). Breaking the pattern, slightly conservatives had a marginally increased rate (+6%). A variant of this analysis was also carried out by including the happiness metrics reverse-coded. This produced materially the same pattern, but was weaker since the happiness items had a weaker relationship with political ideology than the mental illness variables.

Discussion

The present study investigated a large dataset of representative adult Americans to see whether there was a relationship between political ideology and mental health. Prior research and media claims had indicated these variables were related such that left-wing ideology was associated with worse mental health

(Bullenkamp & Voges, 2004; Duckworth et al., 1994; Guhname, 2007; Howard & Anthony, 1977; Kelly, 2014; Lemoine, 2020; Unorthodox Theory, 2020). The results of the present study are in line with previous claims, in particular concerning people who reported being "extremely liberal", though this is a small minority of persons in the study (about 5% in 2018, cf. Figure 2). It is notable that the question based on the largest sample size (n = 11,338, spanning the years 2002-2018, days of poor mental health last 30 days) showed one of the most consistent patterns, both in the simple averages by sex and when adjusting for age. The effect size between the two extreme groups was 0.39 *d*, thus of moderate size. As both variables are single item measures which have limited reliability, the true score effect size would perhaps be around 0.50 assuming about 0.70 test-retest reliability (Kim & Abraham, 2016; Littman et al., 2006; Spörrle & Bekk, 2014). On the other hand, the correlation between the variables is only .07 (p = 3e-10).

So, is the effect large enough to care about? It may depend on whether one is interested in people with extreme political views, roughly in the top 10% of extremism (5% on either side, cf. Figure 2). There is evidence that most political discourse and activism is done by highly interested, generally intelligent people (Kalmoe, 2020), who also tend to be more ideologically consistent and thus more represented among the extreme groups (Kalmoe, 2020). Thus, one might expect that among such people, the left-wing political activists would tend to be more mentally ill than the equally extreme right-wing political activists.

With regards to etiology, this kind of cross-sectional study is not highly informative. Both mental illness and political ideology are substantially heritable (Brikell et al., 2018; Hatemi et al., 2014; Kirkegaard, 2018; Neumann et al., 2016), and both are moderately to strongly related to broader personality differences (Fatke, 2017; Ksiazkiewicz & Friesen, 2019). A good start would be doing a multivariate behavioral genetic study to assess the degree to which the relations are due to common genetic variance or shared environmental (which includes upbringing). Based on prior findings (Kirkegaard, 2018), it is unlikely that the shared environment contributes substantially to the relationship, and the covariance of these traits probably mostly reflects common genetic pathways.

However, even finding common genetic variation would not necessarily be terribly informative regarding causality. It is possible that mentally ill people select into extreme left-wing views, or that being in extreme left-wing contexts results in mental illness (i.e. left-wing contexts promote mental illness). It is also likely that both are caused to some degree by other factors not measured or even mentioned here. With regard to overlap between contexts, it is well-known that academics lean extremely to the left (especially the softer fields), and show high

rates of mental illness (Duarte et al., 2015; Kinman & Wray, 2013; Langbert, 2018). There are also reports of increasing rates of mental illness among students and PhD students in particular (Levecque et al., 2017; Puthran et al., 2016; Rotenstein et al., 2016; Twenge et al., 2010).

This suggests that there is perhaps something about being in university that is causal for mental illness and probably also encourages people with poor mental health to self-select into it. A promising route would be to look at people who were somehow randomized to attend college or not, or to become a PhD student or not, perhaps as a result of a lottery for scholarships. This would remove the possibility of self-selection, and thus be informative about the degree of causality from university attendance or employment to mental illness. It would also be informative to locate datasets with longitudinal data between the variables to see if mental illness in children or teens predicts later entry into academic employment, thus suggesting self-selection rather than causal effects of the academic environment. Similarly, one could do a longitudinal study to see if people leaving academia tend to become happier.

Limitations and suggestions

The study has a number of limitations. First, since we were limited to single items, there is a question of whether these tap into the construct of mental illness properly (construct validity). Generally, research on single item measures of mental health finds that they are useful (Ahmad et al., 2014). Some prior research on the topic employed stronger methods such as looking at the voting pattern of people who are institutionalized or hospitalized for mental illness, and also found a left-wing association (Bullenkamp & Voges, 2004; Duckworth et al., 1994; Howard & Anthony, 1977; Kelly, 2014). Thus, construct validity does not seem a plausible issue. As the reliability of single items is usually estimated to be around .70, the observed relationships would be somewhat stronger if adjusted for this measurement error. For instance, the correlation of .07 between bad mental health days and political ideology would become .09, while the Cohen's *d* between extreme liberals and extreme conservatives of 0.39 would become 0.56.

Second, the sample sizes were not always sufficient to estimate differences with confidence for the extreme groups. We used all the available data as of this time. Our use of meta-analysis across items uses the available data in an optimal way to increase statistical certainty. Research should attempt to find large surveys that use better measures of mental illness, and include a measure of political ideology. Another alternative is to scrape data from political activists online (e.g. Twitter) and examine it for indicators of mental illness (Coppersmith et al., 2014, 2018; Nadeem, 2016; Reece et al., 2017). A third option would be to

sample persons already known to have severe mental illness issues and examine their political views, as already done in a number of small studies of voting behavior among patients in mental health facilities (Bullenkamp & Voges, 2004; Duckworth et al., 1994; Howard & Anthony, 1977; Kelly, 2014). This could be done via the internet since various online survey companies allow targeting of specific subgroups, such as those with a diagnosis of mental illness.

Third, a thorny issue is whether there is measurement invariance by group. In the case of single items, one cannot conduct measurement invariance (MI) testing since differential item functioning (DIF) tests rely upon other items to estimate their parameters. Measurement bias could be examined using standard methods such as multi-group confirmatory factor analysis (MGCFA) and DIF, especially if one used a heterogeneous set of items or tests. A number of studies have examined other groups where one might expect measurement bias exists and found it lacking (ethnic groups Hoe & Brekke, 2008; natives vs. immigrants Iliceto et al., 2013; across sexes T.-H. Wu et al., 2015). Finally, one might look at objective or other-ratings of mental illness. One reason to believe there might be measurement bias is that left-wing political views are on the whole better disposed towards people with mental illness (Gonzales et al., 2017; Parcesepe & Cabassa, 2013). Thus left-wing individuals with mental health problems may be more willing to seek help, get diagnosed, get treatment, and even admit their problems to themselves (Alexander, 2020); or, those with mental health problems are attracted to left-wing ideology because left-wing ideology and policies are more supportive of people with psychiatric problems, as suggested by Bullenkamp & Voges (2004).

Among objective indicators, the suicide rate could be useful as it represents a concrete action that is difficult to misinterpret. Various research shows that conservative and religious people have much lower suicide risk, suggesting lower rates of mental illness among conservative and religious people (Stack & Wasserman, 1992; A. Wu et al., 2015). However, the same argument could be made here that suicides are a faulty indicator because Abrahamic religions have laws against them, which results in fewer suicides despite equal rates of mental illness. While measurement invariance issues cannot at present be ruled out, they seem implausible considering that every available indicator examined has the same direction of effect.

Fourth, similar to the use of a single item to measure mental illness, the use of a single item to measure political ideology is questionable. Various factor analytic studies of politics find that one can in general not easily summarize the views of the general population into a simple one-dimensional scale like typically done in studies, including the present (Carl, 2015; Carmines et al., 2012; Feldman

& Johnston, 2014; Kalmoe, 2020; Kirkegaard et al., 2017; Swedlow, 2008). Many researchers advocate two- or three-dimensional approaches. It is likely that the pattern found in this study will turn out to be more complicated if such measures were used. In order to keep the analyses simple here, such more advanced measurements were not attempted, but left for future studies. At the request of a reviewer, we did conduct an extra analysis using the party affiliation measure, and this showed weaker relationships than the political ideology measure, and in one case, a different non-monotonic pattern (Figure 7). The reasons for this are unknown but deserve investigation.

Supplementary materials

Study analysis code, full statistical output (R notebook), and data are available at https://osf.io/fhpxm/.

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